Apostle Islands develops action plan for climate change

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Who knew ice could be so important?

Without it, evaporation could cause Lake Superior to drop even lower (although the level could hit an 80-year low in September or October).

And, since 1964, the number of days travelers can use the winter ice road between Bayfield and Madeline Island has nearly been cut in half.

Those are only two of the myriad impacts the Chequamegon Bay region could face in the next century due to climate change.

Despite those who still cast doubt over human beings' contribution to that change, there is a global groundswell of support to begin reducing the amount of greenhouse gases and pollutants that exacerbate the problem, as well as adapting to unavoidable changes.

But how can that desire be translated into action? About 30 people gathered at the Northern Great Lakes Visitor Center on Tuesday, not only to learn more about the science behind climate change, but also to brainstorm ideas for ways to make the Apostle Islands National Lakeshore a "climate-friendly park."

The idea isn't unique to Apostle Islands, however. The climate-friendly parks program is a collaborative effort between the U.S. Environmental Protection Agency (EPA) and the National Park Service.

The basic idea is to help staff at each of the participating parks find ways to reduce their carbon footprint; that is, to reduce their contribution of carbon dioxide, nitrogen oxide and other greenhouse gases that are changing the climate, and thereby to maintain the environmental quality within all of the NPS' 391 parks, lakeshores and other properties.

Apostle Islands National Lakeshore (AINL) is the 11th park in the climate-friendly program, and later this week, the Pictured Rocks National Lakeshore in Michigan will become number 12.

There are currently about 30 bills in the U.S. House of Representatives, and another 30 bills in the U.S. Senate, that attempt to deal with climate change in some way, said Julie Thomas McNamee, an air resources specialist with NPS. That's why many local residents and AINL staff are taking it upon themselves to deal with the problem, since some changes are already apparent.

For example, higher average temperatures could result in a shift in the species of the region's forests — from northern hardwoods of birch, aspen and maple to something closer to species found in, say, Illinois, where more oaks and hickory currently sit.

And, since ice cover helps keep the lake cooler by reflecting most of the sunlight, dark, open water will absorb more sunlight and further warm up Lake Superior, according to Dr. Jay Austin, assistant professor of physics at the University of Minnesota-Duluth and faculty member of its

Large Lakes Observatory.

That, in turn, could force out of the region some of its well-known cold water fish like lake trout and whitefish.

Austin, who shared his research with workshop participants on Tuesday, also described how, in part because of less ice cover, water temperatures in Lake Superior appear to be rising faster than air temperatures.

Krumenaker pointed out that a drought spanning several years is also partly to blame for the low level of Lake Superior, which he said is 13 inches lower than this time last year.

Because scientists like to rely on long-term trends before making definitive statements, it's difficult to attribute present conditions to climate change. But Krumenaker said that the changes he and others are witnessing in the region are consistent with what climate change models are predicting.

"It's unequivocal that we're on a path that's different from where we used to be," Krumenaker said. "...So enjoy the hardwoods now, because your grandchildren might not see them."

Bringing the science (and action) back home

NPS and EPA staff, along with others from the public who attended Tuesday's workshop, found out what many Apostle Island staffers already know — there are many ways that the park is going green.

"There's not a lot of low-hanging fruit here," Krumenaker said. "It seems like we've already done a lot of the easy stuff."

Most buildings within the chain of islands now use solar power to the extent that wind energy isn't really necessary; some of the boats used for traveling between the islands run on biodiesel, while others have been converted from two-cycle engines to more efficient four-cycle engines or will be in the future; and washable plates and silverware have replaced disposable ones.

But, in the process of joining the climate-friendly park club, AINL staff did find room for improvement.

Part of the climate-friendly initiative is to conduct an inventory of the park's greenhouse gas emissions, which play a large part in climate change, as well as an inventory of criteria air pollutants like sulfur dioxide and particulate matter that can have a more immediate impact on public health.

The emission inventory revealed that 659 metric tons of greenhouse gases are released each year through park operations. That is the second-lowest total of the 12 climate-friendly parks, just above Pictured Rocks National Lakeshore.

The Great Smoky Mountains National Park had the highest total, with about 21,000 metric tons of greenhouse gas emissions, although that park has a federal highway cutting through it that contributes to emissions.

Of the 659 tons of greenhouse gas emissions at Apostle Islands, 628 come from transportation, since the Apostle Islands is unique in its need for some type of watercraft to travel between them. That is why visitors' boat travel accounts for 77 percent of the transportation emissions, with the

Apostle Islands Cruise Service contributing 14 percent, and park vehicles and watercraft totaling 7 percent.

The inventory also found that the park and its visitors generate 47 tons of waste each year, which does not include the AINL headquarters itself, since the City of Bayfield collects waste from there.

In the process of finding ways to reduce the amount of waste, park staff found the need to do a bit more work to determine how much of that 47 tons is recyclable or could be composted, and how much is solid waste.

Park staff already emphasizes a "leave no trace" policy, in which visitors to the islands leave with everything they brought with them. In fact, only Stockton Island even has garbage and recycling receptacles.

While composting could work for the food waste, staff would have to figure out a way to keep out the bears and raccoons. But Doug Pratt, AINL buildings and utilities supervisor, was optimistic about the idea for the residential units used by Apostle staff.

In terms of energy consumption, the opportunity exists to create more demand for power that comes from renewable energy sources like wind or solar power, Krumenaker said. The federal government already provides its departments with a list of companies that produce "green" products and a list of the products themselves. And park staff does place an emphasis on such products, but Krumenaker also said there could be more oversight to ensure staff members place a high priority on procurement of environmentally friendly products.

Left out of the discussion on energy consumption and waste management were the park's budget and how to make the staff's transportation methods more climate-friendly.

Krumenaker admitted toward the end of Tuesday's discussions that the ideas brought forth during the day are just the beginning. It is up to park staff and others in the area now to begin crunching the numbers to determine what is affordable, since money (or the lack thereof) is always an issue — not just for Apostle Islands, but for most National Park Service areas across the country.

Spread the word

Coinciding with climate-friendly initiatives inside the park is an effort to impart a little knowledge on the visitors to those areas, so that they might choose to make some changes in their own lives once they head home.

That could have profound implications nationally and internationally, considering that more than 250 million people visit Park Service locations each year, said Shawn Norton, an NPS environmental leadership program coordinator.

"These parks are going to change, and if they change in a negative way, people will care about it," he said. "So we have to talk with them about the places they love and what they can do" about climate change.

One of the breakout sessions during Tuesday's workshop centered around ways to educate the public about the impacts of climate change globally, but also to how to relate that to the local level.

Neil Howk, assistant chief of Apostle Islands, said one of the comments he hears the most from

visitors is that "they like the park the way it is," and that it shouldn't be altered.

But climate change will alter the park, so that could be used as a starting point to begin the process of explaining climate issues relevant to the Apostles.

Yet park staff and others recognized the need to be sensitive to the visitors in terms of not launching into a "fire and brimstone" speech about climate change.

That could necessitate what the NPS' McNamee called "a diplomatic tightrope" between finding ways to explain the science and doing so in a way that doesn't depress the public to the point that they never come back.

Bayfield Mayor Larry MacDonald said on Tuesday that visitors should not feel inhibited about coming to the islands, and that with gas prices and an emphasis on traveling closer to home, "you could have less people climbing Mt. Everest and more people climbing Oak Island," referring to one of the islands in the Apostle chain.

Because so many visitors use either their own boats or a shuttle service to travel between the islands, one of the ideas tossed out on Tuesday was to develop a "green boating" initiative, in which visitors are schooled on the contributions their boats make to climate change, as well as ways they could reduce their emissions.

And, lest kayakers assume their method of travel is the only way, Krumenaker and others suggested some type of "life-cycle cost" explaining that, while a kayak may not spew emissions on the water, the way it was produced may contribute to the overall climate change.

A little bit of self-promotion wouldn't hurt either, in order to show the public what the park is doing to reduce its ecological footprint.

"The education efforts will make a greater difference than what we do ourselves," Krumenaker said.